INDEX

METALLURGIST

Numbers 1-12, 1969



METALLURGIST Numbers 1-12, 1969

(A translation of Metallurg)

A

Abdullaev, A. I. - 508 Afanas'ev. I. I. - 752 Afanas'ev, S. G. - 481 Agafanov, V. - 196 Agapov, G. D. - 198 Agarkov, V. F. - 111 Akhmatov, Yu. A. - 285 Aleinikov, V. G. - 410 Alekseev, Yu. N. - 111 Alferov, K. S. - 687 Alibekov, V.I. - 479 Aliev, I. P. - 713 Alyavdin, V. A. - 489 Alymov, A. A. - 25, 623, 754 Andreev, E. I. - 750 Andreev. S. - 516 Andreev, V. A. - 25, 754 Andreev, V. L. - 555 Andronov, P. I - 162 Andronov, V. N. - 537 Anishchenko, M. S. - 378 Anokhina, A. I. - 224 Antonenko, A. S. - 701 Antonenko, V. F. - 384 Antoshechkin, M. P. - 468 Apshin, B. A. - 278 Ashpin, B. I. - 80 Arbuzov, V. A. - 77 Aref'ev, E. P. - 198 Arist, L. M. - 343 Arshavskii, V. Z. - 701 Artyukh, V. S. - 118 Attaryan, V. G. - 126, 377 Avilov, L. G. - 485

B

Babalov, A. F. - 791
Bachinin, A. A. - 537
Bakhtiarov, N. F. - 759
Bakuma, S. F. - 115
Baltaksa, P. M. - 615
Bannykh, V. F. - 409, 541
Baraev, S. V. - 58

Baram, A. N. - 178, 238 Barysheva, É. N. - 684 Bashkatov, V. N. - 410 Bashlii, F. I. - 543 Bazilevich, S. V. - 22 Belalov, V. N. - 47 Bel'gol'skii, B. P. - 655 Belov, V. S. - 189 Bensman, L. G. - 345 Benyakovskii, M. A. - 301, 565 Beremblyum, G. B. - 16 Berg, B. I. - 553 Beskaravainyi, S. I. - 123 Bibik, G. A. - 240 Bibikov. A. N. - 783 Bichev, I. S. - 542 Biktagirov, K. K. - 684 Biryukov, V. G. - 570 Biryukov, V. T. - 438, 772 Bitner, Z. F. - 62 Blagodarov, V. S. - 295 Blanter, M. E. - 180 Blinov, K. A. - 171 Blinov, P. P. - 173 Bogatov, N. A. - 787 Bogushevskii, V. S. - 630 Boguslavskii, L. B. - 660 Boitsov, V. N. - 520 Bokova, A. I. - 312 Bol'shakov, L. A. - 762 Bondarenko, V. I. - 601 Borisova, L. V. - 227 Borodaevskii, V. K. - 375 Borodulin, A. I. - 25 Borovikov, V. K. - 384 Bozhko, A. D. - 133 Braginets, N. G. - 92, 722 Braverman, E. M. - 102 Brezinskii, M. A. - 198 Bronfenmakher, A. M. - 224 Budovskii, V. Z. - 434 Buinevich, V. S. - 95 Bulatov, Yu. I. - 368 Bunakov, I. M. - 64 Burdonov, B. A. - 224 Burshtein, Ya. A. - 307

Buzhinskii, A. A. - 745 Bychin, A. I. - 474 Bykov, V. I. - 466 Bykov, B. I. - 530 Bytkin, V. N. - 542

C

Chamin, I. A. - 778
Chekhomov, O. M. - 231
Chernitsyn, V. S. - 40
Chernogubov, A. I. - 764
Chernov, G. I. - 288
Chernyshev, A. M. - 669
Chichkanov, A. I. - 496, 633
Chirkov, I. P. - 324, 411
Chizhikov, A. I. - 546
Chkhartishvili, V. P. - 791
Chuchko, S. G. - 716

D

Danilenko, Yu. A. - 198 Danilov, A. M. - 231, 759 Danilov, E. S. - 3 Datsenko, P. F. - 718 Davydenko, G. P. - 429 Davydov, I. - 127 Degtyarev, V. S. - 90 Devyaterikov, A. G. - 558 Devyatisill'nyi, V. I. - 772 Dimitrevskii, A. A. - 523 Dolgoker, Yu. P. - 716 Dombrovskii, V. Ya. - 259 Domoradskii, V. N. - 620 Doroshenko, P. P. - 568 Dorozhko, I. K. - 701 Dovgopol, V. I. - 448, 726 Dragonat, V. V. - 62 Dreiman, N. I. - 509 Drimbo, A. V. - 345 Druzhinin, I. I. - 292 Dubina, Yu. G. - 357 Dudnik, E. S. - 164 Dvoryaninov, V. A. - 555 Dyadyushkin, A. Z. - 312

Dyudkin, D. A. - 292, 493 Dzamashvili, N. A. - 201, 649

E

Efimov, V. A. - 691 Elagin, S. E. - 187 Elimelakh, R. Z. - 687 Eriklintsev, V. V. - 787 Ermakov, A. L. - 410 Ermakov, V. V. - 647 Esaulov, P. A. - 438 Esin, I. A. - 474

F

Faivush, M. V. - 687 Fedorov. M. I. - 711 Fedotov, A. G. - 278 Feigin, G. D. - 250, 431, 775 Feldman, L. V. - 47 Fialkov, A. S. - 55 Filatov, A. D. - 640, 684 Filatov, S. K. - 30 Filippova, E. I. - 617 Firsov, P. A. - 565 Fokichev, R. A. - 532 Freidenzon, E. Z. - 468 Fridman, D. S. - 787 Fridman, G. L. - 59 Friedenberg, A. S. - 684 Frolov, V. V. - 13 Frolova, O. I. - 778 Fuks, Z. G. - 572

G

Ganich, A. A. - 507 Gaponov, O. P. - 401 Garchenko, V. T. - 25 Garmashov, V. I. - 742 Gelyadov, R. S. - 90 Genken, I. - 318 German, B. M. - 745 German, I. M. - 431 Getiya, I. G. - 180, 570 Girskii, V. E. - 233, 546 Glikman, É. S. - 655 Globa, N. I. - 555 Globin, A. G. - 222, 287 Gnuchev, S. M. - 227, 489 Gnutov, V. P. - 791 Gol'berg, V. Ya. - 325 Gol'denberg, A. A. - 180 Gollandtsev, L. V. - 285 Gololobov, D. I. - 231 Golosnaya, M. V. - 438 Goloto, R. N. - 88 Golubitskii, V. I. - 357 Golubyatnikova, K. M. - 420 Goncharov, V. P. - 498 Gorbachev, V. P. - 398 Gorbanev, Ya. S. - 675 Gorelik, D. A. - 164 Gorodetskii, A. N. - 343 Gorshkov, B. T. - 651 Goryainov, A. P. - 269 Gratsilev, V. M. - 678 Greben', K. A. - 36 Grenberg, E. I. - 125 Grigor'ev, A.S. - 283 Grigor'ev, E. I. - 208 Grigor'eva, T. P. - 438 Grinberg, S. E. - 684 Gritsuk, N. F. - 701 Groshev, M. Ya. - 468 Grossman, Kh. B. - 558 Gryzlov, E. G. - 413 Gudyrya, V. A. - 339, 423 Gulyga, D. V. - 537, 675 Gunin, I. V. - 568, 701 Gurevich, Yu. G. - 231 Gurskii, G. V. - 681 Gusakov, V. N. - 720 Guseinov, K. A. - 713 Guseinov, K. R. - 713

H

Hadji, E. N. - 351

I

Ignatovich, A. I. - 687
Il'chenko, M. M. - 111
Il'kun, V. I. - 478
Il'nitskii, A. A. - 772
Ilyukhin, B. I. - 420
Ioffe, V. G. - 276, 707
Isaenko, V. F. - 543
Ishchenko, A. D. - 345
Ivanov, A. A. - 512
Ivanov, O. L. - 362, 382, 638
Ivanov, Yu. V. - 183
Ivanskii, V. A. - 164
Izyumskii, F. P. - 339

K

Kabanov, V. F. - 537 Kablukovskii, A. F. - 227, 459 Kachailov, A. P. - 179 Kachanov, V. V. - 752 Kachnova, G. A. - 791 Kadyshev, G. A. - 368 Kalashnikov, A. I. - 579 Kaliberda, N. P. - 357 Kapustin, A. D. - 489 Karasevich, A. N. - 423

Karpel', M. Z. - 764

Karpov, G. A. - 240 Karsskii, V. E. - 568 Kashechko, V. S. - 95 Kats, T. M. - 691 Katsai, E. V. - 231 Katsalapenko, A. E. - 701 Katsman, V. Kh. - 153 Kazakov, P. P. - 295 Khalin, P. G. - 217 Kharchenko, N. M. - 613 Khasin, G. A. - 30, 231 Khavkina, V. D. - 90 Khesin, Yu. I. - 509 Khinkis, A. N. - 427, 658 Khmelkov, N. I. - 245 Khoroshev, T. N. - 445 Khudorozhkov, I. P. - 468 Kireev, V. V. - 159 Kishkin, L. M. - 438 Klempert, V. M. - 337 Klochko, A. K. - 526 Klochkova, Z. V. - 489 Kochanov, V. N. - 438 Kochetov, N. N. - 617 Kolesnik, I. L. - 613 Kolganov, G. S. - 543, 757 Kolodin, Yu. I. - 278 Komarovskii, A. Z. - 52 Kondratyuk, A. M. - 292, 416, 493 Konnov, P. G. - 143 Konovalenko, A. - 252 Konovalov, I. M. - 25, 754 Konovalov, K. D. - 156 Konovalov, L. A. - 66 Konyukh, V. Ya. - 36 Korchemnyi, A. M. - 44, 567 Korneenkov, A. N. - 205 Korolev, N. M. - 162 Korotkov, G. A. - 295 Korovkin, V. D. - 357 Kosinskii, V. F. - 605 Kossova, V. P. - 77 Kostyanoi, M. G. - 33 Kostyrev, L. M. - 156 Kostyukov, I. I. - 666 Kotin, A. G. - 423 Kotov, K. I. - 153 Kovalevskii, M. A. - 579 Kovtushenko, A. A. - 783 Kozhevnikov, A. S. - 368, 642 Kozlov, A. V. - 745 Kozlov, V A. - 354 Kozlov, V. Ya. - 183 Kozopasov, E. V. - 431 Krasov, A. F. - 132 Kravchenko, A. A. - 512

Kravchenko, A. P. - 478

Kriulin, P. F. - 764 Krizhevskii, A. Z. - 530 Krupenik, V. N. - 423 Ksenzuk, F. A. - 179 Kucher, V. G. - 466, 530 Kuchinskaya, O. F. - 55 Kudrin, V. A. - 173 Kudryavaya, N. A. - 25, 754 Kukuruznyak, I. S. - 95, 630 Kulak, Yu. E. - 568 Kul'baba, N. I. - 655 Kulikov, V. O. - 413 Kuprikova, N. D. - 55 Kurapin, B. S. - 555 Kurdyukov, A. A. - 416 Kurunov, I. F. - 337 Kustabaev, G. G. - 309 Kuzema, I. D. - 691 Kuzin, A. A. - 582 Kuznetsov, A. F. - 187 Kuznetsov, L. K. - 62 Kuznetsov, N. I. - 696 Kvanchakhadze, B. Sh. - 649

L

Labunovich, O. A. - 227 Lakhmostov, I. I. - 315 Lamin, A. B. - 125 Lapenkov, B. F. - 111 Lashchev, V. Ya. - 636 Lazarev, B. L. - 745 Lebedinskii, N. Kh. - 164 Leiner, F. M. - 512 Lekontsev, Yu. A. - 13, 672 Lenkov, G. V. - 111 Leshchinskii, V. D. - 339 Levin, L. Ya. - 605, 678 Levin, M. Z. - 88, 309, 716 Levin, V. - 261 Likharev, V.B. - 191 Linchevskii, B. V. - 700 Linker, E. A. - 724 Litvak, A. M. - 640 Litvinenko, V. G. - 423 Lizhevskii, F. K. - 19 Loboda, V. I. - 530 Loganov, M. I. - 496, 633 Lomaka, N. F. - 474 Los', P. E. - 77 Lovyannikov, V. S. - 124 Lyukimson, G. M. - 171

\mathbf{M}

Machkovskii, V. A. - 742 Magidson, M. A. - 485 Maglakelidze, R. A. - 649 Magradze, T. L. - 791 Magrilov, A. I. - 125 Makaeva, T.S. - 312 Makarov, P. Ya. - 711 Makhanek, N. G. - 156 Makrushin, K. D. - 754 Maksimishina, T. K. - 555 Malakhov, V. S. - 309, 716 Mal'chenko, T. V. - 25 Malimon, L. V. - 208 Malkin, B. S. - 438, 570, 772 Malysheva, T. Ya. - 669 Malyshkin, B. Ya. - 354 Malyuta, D. I. - 752 Mamedov, K. Kh. - 713 Mamontov, O. A. - 512 Mamot, A. M. - 489 Marder, B. F. - 601 Marinin, A. V. - 171 Markelov, A. I. - 231 Markov, N. F. - 489 Markova, V. M. - 64 Martyanov, M. N. - 62 Martynenko, V. A. - 615 Matveev, B. N. - 240 Matveichev, A.S. - 129 Mayrodii, P. D. - 49 Mazur, V. L. - 179 Mazurov, E. F. - 227 Mednikov, Yu. A. - 302 Medvedev, V. A. - 187 Meleshko, V. I. - 179 Mel'nikov, B. F. - 568 Mel'nikov, O. A. - 642 Mel'nikov, P. I. - 630 Mel'nikov, Yu. M. - 309 Merker, É. É. - 33 Mesyats, V. I. - 235 Mezenin, G.F. - 58 Mezheritser, A. B. - 86 Mikhailov, A. D. - 638 Mikhailov, A. S. - 620 Mikhailov, V. I. - 189 Mikhalev, V. N. - 720 Mishchenko, V. P. - 512 Mishin, P. P. - 80 Misyura, I. G. - 694 Mit'ko, V. A. - 176 Mitrofanov, V. I. - 193 Mokhir, E. D. - 759 Mokrushin, K. D. - 25 Monid, A. G. - 368, 642 Moreeva, G. P. - 669 Morozov, V.D. - 375 Mosiashvili, V. V. - 555 Moskalev, A. N. - 511

Mukhin, Yu. A. - 570 Mukhtarov, M. I. - 508 Murdasov, A. V. - 651 Murzov, K. P. - 292, 493 Musa-Zade, M. M. - 713 Musikhina, M. K. - 485 Mysina, G. E. - 227

N

Nakhaev, P. E. - 16
Nalivaiko, I. N. - 193
Napadailo, I. T. - 645
Nasibov, Yu. D. - 313
Nechaev, E. A. - 368
Nikitina, L. I. - 25
Nikolaev, A. G. - 684
Norik, N. P. - 269
Noskov, A. A. - 754
Noskov, N. I. - 403
Noskov, N. S. - 775
Novikov, B. G. - 410
Novozhilov, H. G. - 288
Nurmamedov, A. A. - 191

0

Ob'edkov, A. P. - 224
Ofengenden, A. M. - 416
Onorin, O. P. - 156
Oparysheva, V. T. - 68, 390
Orlov, S. I. - 47
Osadchii, I. I. - 579
Osadchii, V. Ya. - 570
Oseiko, N. I. - 778
Osipov, A. I. - 549
Osipov, N. N. - 132
Ovsyannikov, V. P. - 653
Ozhiganov, I. A. - 468

P

Pal'mov, N. M. - 711
Panchenko, A. G. - 485
Papyrin, Yu. A. - 248
Parfenyuk, V. K. - 568
Parkhomenko, A. - 794
Parkhomenko, D. M. - 555
Parparov, I. L. - 102
Parshin, V. A. - 58, 312
Pasechnik, M. S. - 553
Pashchenko, N. K. - 92
Pashkeev, G. G. - 672
Pashko, I. I. - 579
Pavlenko, I. F. - 382
Pavlenko, V. A. - 347
Pavlovskii, V. Ya. - 568

Pavlyukov, Yu. S. - 605 Peredistyi, V. N. - 694 Peregudov, A.S. - 171 Perminov, V. P. - 233, 546 Perov, I. N. - 754 Petrovskii, A. A. - 778 Petrovskii, B. T. - 613 Pimenov, A. F. - 778 Pimenov, E.S. - 509 Pirch, A. P. - 362 Plakida, M. M. - 133 Pliskanovskii, S. T. - 537 Plyatskovskii, O. A. - 772 Podgorodetskii, A. A. - 176 Podkin, V. I. - 546 Podol'skaya, G. A. - 555 Podzharskii, B. I. - 713 Pokhvisnev, A. N. - 337 Pokrovskii, A. B. - 759 Polovoi, P. A. - 345 Polushkin, N. A. - 633 Polyakov, A. F. - 684 Polyanskaya, T. N. - 655 Ponomarenko, A. G. - 363 Ponomarenko, V. A. - 623 Ponomarev, B. I. - 99 Popov, A. G. - 537 Popugin, V. N. - 762 Potapov, G. A. - 285 Pozdeev, N. P. - 700 Pravdina, T. E. - 489 Prikhod'ko, L. D. - 339 Prikhozhenko, A. E. - 92, 413 Prilepskii, V.I. - 687 Protskii, N. E. - 49 Puchkov, G. N. - 111 Pugachev, Ya. Ya. - 238

R

Puzovskii, E. V. - 742

Rabinovich, D. M. - 711
Rabinovich, E. I. - 684
Raev, Yu. O. - 80
Ratner, Yu. Z. - 478
Reznikov, M. - 454
Robak, R. L. - 254
Rober, A. I. - 783
Robustov, A. M. - 343
Rodionov, L. M. - 51, 370
Rogoznyi, B. V. - 373
Rogulev, B. A. - 288
Roitburd, L. N. - 325
Romanenko, A. G. - 84
Ronin, B. Ya. - 640
Rospasienko, V. I. - 40, 501, 562

Rostemberskii, A. V. - 476 Rovenskikh, V. F. - 368 Rozin, S. E. - 285 Rud', Yu. S. - 466, 530 Rudakov, L. M. - 526 Rusakov, P. G. - 212 Rutus, M. V. - 617 Ryabokon', N. K. - 250 Rybakov, M. S. - 441 Rybinov, V. A. - 636 Rylov, I. A. - 348 Ryn'kov, V. I. - 750 Ryzhkov, V. P. - 224

S

Safronov, V. I. - 62 Saf'yanov, A. V. - 772 Sall', A. O. - 347 Sankin, S. Ya. - 309 Sankin, V. A. - 347 Sapiro, E. S. - 511 Sapko, A. I. - 553 Sapko, V. N. - 691 Sapozhnikov, A. E. - 423 Savitskii, V. E. - 150, 406 Sedach, G. A. - 485 Sedush, V. Ya. - 88 Selifonov, I. D. - 125 Selivanova, L. N. - 125 Sel'kov, V. I. - 388 Selyanko, V. T. - 33 Semenov, A. M. - 162 Semenov, Yu. N. - 623 Senatorov, A. M. - 778 Senin, A. K. - 373 Serbin, N. M. - 752 Sergeev, E. P. - 307 Sergeev, G. N. - 299 Sergienko, V. G. - 555 Serova, A. M. - 707 Servetnik, V. M. - 630 Shablienko, I. D. - 542 Shadrina, T. G. - 47 Shaikevich, S. A. - 243 Shakhov, N. A. - 555 Shalagin, V. M. - 775 Shalaginov, A. L. - 224 Shalimov, A.G. - 549 Shamovskii, E. Kh. - 780 Shandrenko, G. I. - 313 Shapovalov, I. P. - 64 Sharadzenidze, S. A. - 180, 365 Shashenkov, L. I. - 77 Shatlov, V. A. - 398 Shatukhov, A. I. - 485

Shchastnyi, P. M.- 176 Shcherbakov, L. V. - 640 Sheenko, I. N. - 401 Sheftel', N. I. - 459, 594 Shelestov, G.S. - 762 Sheman, M. K. - 573 Shemyavich, E. P. - 640 Shepelev, V. V. - 691 Shermeister, M. S. - 707 Shestak, P. I. - 613 Shestopalov, A. V. - 191 Shevakin, Yu. - 240 Shevchenko, V. I. - 496 Shevtsov, A. T. - 501 Shilkin, Yu. V. - 185 Shirinskaya, S. A. - 565 Shkonda, R. N. - 49 Shkumatov, S. N. - 672 Shmatko, G. A. - 288 Shneerov, Ya. A. - 684 Shokul, A. A. - 537 Shparber, L. Ya. - 10, 271 Shteinberg, L.S. - 25, 754 Shtela, E. D. - 90 Shubin, V. M. - 90 Shugol', M. B. - 224 Shumilov, R. N. - 752 Shumskii, M. - 454 Shur, B. - 6, 146, 462, 598 Shutov, M. D. - 347 Shvartsbart, Ya. S. - 505 Shvetsov, E. M. - 707 Shvetsov, V. V. - 363 Siagalov, M. A. - 562 Sidorov, N. V. - 30 Sidorovskii, S. N. - 307 Simonov, O. A. - 343 Sindin, V. G. - 309 Sinitskii, V. D. - 675 Sitnikov, V.F. - 620 Skorobogatov, S. M. - 640 Slavin, V.B. - 182 Slavkin, V.S. - 513 Sleptsov, Zh. E. - 80, 276 Smakotin, I. V. - 227 Smirnov, A. V. - 685 Smirnov, M. V. - 178 Smolin, A. I. - 173 Smolyarenko, D. A. - 623 Sobolev, B. G. - 489 Sobolev, S. K. - 630 Sokhadze, Z. T. - 701 Sokolov, G. A. - 77 Sokolov, I. T. - 635 Sokolov, S. - 771 Sokolov, S. G. - 386

Sokur, N. P. - 341 Solomentsev, S. I. - 276 Sorokin, A. V. - 476 Sorokin, N. A. - 630 Sorokin, P. V. - 476 Sosipatrov, V. T. - 623 Sosonkin, O. M. - 173 Stadnyk, B. I. - 55 Stakhanov, Yu. A. - 219 Staroseletskii, M. I. - 312 Starshinov, B. N. - 675 Stekachev, V. I. - 678 Strel'chenko, Yu. G. - 555 Strizhak, G. K. - 438 Strokova, L. Z. - 579 Sudakov, A. I. - 309 Sudya, V. P. - 701 Sukhonosenko, E. A. - 526 Suntsov, G. N. - 750 Suprunenko, R. S. - 542 Suvarov, R. - 627 Sverdlov, V. P. - 54 Svetlanov, V. T. - 701 Svetlov, V.F. - 750 Sverdlov, V. P. - 380 Sviridov, V. - 322 Sviridova, V. - 108 Svyatchenko, V. N. - 716

T

Tananakin, V. P. - 363 Tanin, R. V. - 185 Tarakanov, Yu. V. - 700 Taranovskii, V. V. - 601 Tarasov, K. S. - 507 Tarasov, V. M. - 754 Taratenko, P. F. - 576 Tatarnikov, V. V. - 720 Tatsienko, P. A. - 77 Tat 'yanshchikov, A. G. - 25, 623, 754 Tchirkov, I. - 728 Teitel'baum, P. T. - 783 Temnokhud, N. N. - 675 Terekhov, I. A. - 36 Tereshchenko, V. T. - 416 Terziyan, P. G. -636 Tetyuev, V. A. - 546 Tikhontsov, A. M. - 297, 789 Timoshpolskii, I.S. - 694 Tkachenko, G. M. - 297, 789 Tomin, A. P. - 256

Totskii, I. T. - 787
Tret'yakov, E. V. - 171
Troshchenko, N. A. - 179
Trubetskov, K. M. - 25, 754
Trushkov, V. - 66
Tseitlin, M. A. - 208
Tselikovskii, I. I. - 613
Tsereteli, P. A. - 180
Tsibul'nikov, A. I. - 759
Tsilevich, I. Z. - 568
Tsvik, Zh. B. - 208
Tsylev, L. M. - 77
Tulin, N. A. - 700

U

Ubiriya, A. E. - 180 Ushakov, I. A. - 512 Utin, I. A. - 313, 508 Uzhba, A. G. - 742 Uzienko, A. A. - 684

V

Vachugova, N. S. - 30 Vanchikov, V. A. - 25 Varlakov, V. N. - 724 Vashchenko, Yu. I. - 772 Vasil'chenko, N. M. - 542 Vasin, A. A. - 325 Vasko, I. P. - 601 Vatnik, L. E. - 118 Vedyakin, N. M. - 498 Vendrov, I. G. - 660 Venetskii, S. - 135, 261, 451, 587, 730 Verkhovtsev, É.V. - 620 Veselov, N. G. - 511 Vier, V. I. - 10, 271 Vinets, V.G. - 62 Vinogradov, Yu. V. - 221 Vinokurov, I. Ya. - 711 Vishnevetskii, M. L. - 269 Vladimirov, V. - 105 Voinov, S. G. - 549 Volivakhin, V. I. - 675 Volkov, A. A. - 684 Volkov, Yu. P. - 271 Volkov, Ya. R. - 193 Volkova, L.A. - 542 Volovík, G. A. - 153 Vorob'ev, É. V. - 642

Vorobeva, O. V. - 791 Voronov, Yu. F. - 543 Vozhdaev, V. P. - 684 Vygran, S. G. - 542 Vycig Min'Tyong - 416

V

Yakimenko, V. I. - 413 Yakobson, V. Z. - 123 Yakovlev, V. G. - 227 Yankelevich, V. M. - 339, 423 Yakushin, V. L. - 754 Yantsen, B. D. - 745 Yaroshevskii, S. M. - 726 Yarovinskii, E. A. - 343 Yashchenko, B. F. - 471 Yavoiskii, V. I. - 416 Yudichev, V. A. - 283 Yudin, S. P. - 570 Yugov, P. I. - 481 Yukhnovskii, Yu. M. - 701 Yur'ev, P. U. - 605 Yushkovskii, A. G. - 254

\mathbf{z}

Zaichikov, S. G. - 55 Zairulin, R. N. - 285 Zakharova, D. M. - 617 Zalkind, A.S. - 215 Zaloga, A. A. - 601 Zaraiskii, V. H. - 208 Zastavnyuk, V. K. - 102 Zavodilenko, A. I. - 485 Zebzeev, F. D. - 546 Zelenin, I. M. - 694 Zel'tser, I. G. - 92 Zenchenko, F. I. - 778 Zhadan, V. T. - 568 Zhak, A. M. - 153 Zhuravlev, F. M. - 669 Zhuravlev, N. N. - 373, 645 Zil'bershtein, M. B. - 33 Zinin, V. M. - 403 Zin'kovskii, M. M. - 75, 267, 584 Zlobinskii, B. M. - 509 Zolotukhin, K. S. - 532 Zrazhevskii, V. D. - 36 Zubarev, A. G. - 99, 489 Zulin, V. M. - 80 Zvyaga, M. K. - 164 Zykov, A. D. - 780



METALLURGIST Numbers 1-12, 1969

(A translation of Metallurg)

NUMBER 1, JANUARY, 1969

	Engl./	Russ.
Preparations for the Celebration of the Centenary of Lenin's Birth-E.S. Danilov	3	1
FIGHTERS OF THE LENIN GUARD		
Devotion to the Work of Ilyich-B. Shur	6	3
IRON		
Gas Flow Distribution in a Blast Furnace-V. I. Vier and L. Ya. Shparber	10	5
Metal Losses with Slag on Smelting Titanium Magnetites—Yu. A. Lekontsev and V. V. Frolov Temperature Conditions of Drying and Heating in Hot-Blast Stoves—G. B. Beremblyum	13	8
and P. E. Nakhaev	16	9
Overhaul and Replacement of Self-Balancing Screens in Sintering Machines-F. K. Lizhevskii Review of the Novokuznetsk Conference. Design and Operational Experience of Sintering	19	12
Plants with 252/312 Sintering Machines—S. V. Bazilevich	22	14
	22	1.1
Operation of a Twin-Bath Steelmaking Furnace—A. I. Borodulin, K. M. Trubetskov, V. A. Vanchikov, V. T. Garchenko, I. M. Konovalov, A. A. Alymov, T. V. Mal'chenko, K. D. Mokrushin, L. I. Nikitina, L. S. Shteinberg, N. A. Kudryavaya, L. I. Kozlov,		
A. G. Tat'yanshchikov, and V. A. Andreev	25	16
Pouring of Steel and Alloys in an Inert Gas Atmosphere—N. S. Vachugova, N. V. Sidorov,	20	10
G. A. Khasin, and S. K. Filatov	30	19
Protection of the Main Roof of Open-Hearth Furnaces by Means of Air (under Conditions		
of Intensification of Melting by Compressed Air)-M. B. Zil'bershtein, M. G. Kostyanoi,		
É. É. Merker, and V. T. Selyanko	33	20
Experience with Designing and Operating Bath-Blowing Oxygen Lances-V. D. Zrazhevskii,		
K. A. Greben', V. Ya. Konyukh, and I. A. Terekhov	36	22
Selection of the Machinery and Schemes for Plate Mills-V. I. Rospasienko		
and V.S. Chernitsyn	40	26
Method of Rolling Economic Sections-A. M. Korchemnyi	44	29
Improved Drawbench Efficiency-V. N. Belalov, S. I. Orlov, L. V. Feldman,		
and T. G. Shadrina	47	31
Steel 60S2KhFA as a Mandrel Material for Rolling Pipe-N. E. Protskii, P. D. Mavrodii,		
and R. N. Shkonda	49	32
IN THE ROLLING SHOPS OF THE COUNTRY		
Loop Damper -L. M. Rodionov	51	33
Rationalization of Tube Production-A.Z. Komarovskii	52	34
Bearings of the Vertical Rolls of the Welding Machine-V.P. Sverdlov	54	35
O. F. Kuchinskaya, N. D. Kuprikova, B. I. Stadnyk, and S. G. Zaichikov Smokeless Lubricant on Presses of the Wheel-Rolling Shop-V. A. Parshin, S. V. Baraev,	55	36
and G. F. Mezenin	58	37

	Engl./F	Russ.
Powder Metallurgy—G. L. Frigman	59	38
V. V. Dragonat, V. G. Vinets, V. I. Safronov, and Z. F. Bitner	62	39
L. A. Konovalov, V. M. Markova, and I. P. Shapovalov	64 66	41 42
FROM ABROAD High-Speed Filtration of Process Wastes-V. T. Oparysheva	68 71	43 45
NUMBER 2, FEBRUARY, 1969		
The Struggle against Dust at the Ferrous Metallurgy Enterprises—M. Zin'kovskii Production of High Strength Sinter from Acidified Kerch' Ore Concentrates—P. E. Los',	75	1
G. A. Sokolov, P. A. Tatsienko, L. M. Tsylev, V. P. Kossova, V. A. Arbuzov, and L. I. Shashenkov	77	2
B. I. Ashpin, and V. M. Zulin	80	5
"Azovstal" Works-A. G. Romanenko	84	9
New Machine for Opening the Iron Notch—A. B. Mezheritser and R. N. Goloto Durability of the Main Components of Clay Guns—M. Z. Levin and V. Ya. Sedush Device for Controlling the Tension of the Bell Winch—E. D. Shtela, V. S. Degtyarev,	86 88	10
V. D. Khavkina, R. S. Gelyadov, and V. M. Shubin	90	12
STEEL The Nich and State of Control of Contr		
Increasing the Lining Life of Oxygen Converters. The Il'ich Zhadonov Metallurgical Plant -N. G. Braginets, N. K. Pashchenko, I. G. Zel'tser, and A. E. Prikhozhenko Increasing the Lining Life of Oxygen Converters. The Krivoy Rog Metallurgical Plant	92	13
-V. S. Kashechko, I. S. Kukuruznyak, and V. S. Buinevich Performance of 100-t Electric Arc furnaces with Gas Exhaust under the Roof	95	15
-B. I. Ponomarev and A. G. Zubarev Hydraulic Conditions of Gate Valves in Open-Hearth Furnaces-I. L. Parparov,	99	18
V. K. Zastavnyuk, and E. M. Braverman	102	20
METALLURGY ABROAD New Developments in Czechoslovak Steel Production—V. Vladimirov	105	23
Rolling-Mill Operators of the Petrovsk Plant-V. Sviridova	108	24
Yu. N. Alekseev, G. V. Lenkov, V. F. Agarkov, G. N. Puchkov, and B. F. Lapenkov The Production of Thick Plates of Hard-to-Roll Steels and Alloys—S. F. Bakuma	111	27
and L.E. Vatnik	115 118	30 33
IN THE ROLLING SHOPS OF THE COUNTRY	123	36
Cutting of Hot-Rolled Coil Rod -S. I. Beskaravainyi and V. Z. Yakobson		
Work Has Become Easier - V. S. Lovyannikov Lubricants for Rolling Pipe - A. B. Lamin, E. I. Grenberg, A. I. Magrilov, L. N. Selivanova, and I. D. Selifonov	124	37
A Pressing Down Device for a Continuous Furnace-V. G. Attaryan	125 126	38
Creative Genius-I. Davydov	127	39
-A.S. Matveichev	129	40

	Engl./Russ.	
Coping with Accretions in Lime Kilns-N. N. Osipov and A. F. Krasov	132	40
Find State Solutions-M. M. Plakida and A. D. Bozhko	133	42
The Metal that Destroyed Rome-S. Venetskii	135	44
IN THE WORLD OF METALLURGY		
[New Process in Powder Metallurgy		43]
[Cybernetic Control System for Blast Furnaces		43]
NUMBER 3, MARCH, 1969		
On Far Shores. Amurstal' Plant, Komsomol'sk	141	1a
Ways of Saving Metal—P. G. Konnov	143	1
FIGHTERS OF THE LENIN GUARD		
For the Happiness of the People-B. Shur	146	3
CAST IRON		
6500-II-I Exhausters V. E. Savitskii	150	5
Effect of Charge Quality on the Homogeneity of Pig Iron Composition G. A. Volovik,		
V. Kh. Katsman, K. I. Kotov, and A. M. Zhak	153	8
Blast Furnace Operation with Coke of Different Sizes-N. G. Makhanek, K. D. Konovalov,	150	10
O. P. Onorin, and L. M. Kostyrev	156 159	12
Hot Gun Repairs of Molten Cast Iron Transfer Ladles—A. M. Semenov, P. I. Andronov,	100	
and N. M. Korolev	162	14
STEEL Increasing the Life of Roofs of Open-Hearth Furnaces	164	16
Aspects of Slag Formation in Smelting Oxygen-Converter Steel—E. V. Tret'yakov,	104	10
A. V. Marinin, K. A. Blinov, A. S. Peregudov, and G. M. Lyukimson	171	21
Operation of an Electric-Arc Furnace with Water-Cooled Roof-V. A. Kudrin,		
A. I. Smolin, O. M. Sosonkin, and P. P. Blinov	173	23
Keeping the Ingot Top Hot-A. A. Podgorodetskii, P. M. Shchastnyi, and V. A. Mit'ko	176	25
ROLLED PRODUCTS		
Economic Section Rolled From High-Strength Steel-A. N. Baram and M. V. Smirnov	178	26
Sheets with a Dull Surface V. I. Meleshko, A. P. Kachailov, F. A. Ksenzuk, N. A. Troshchenko,		
and V. L. Mazur	179	27
A. E. Ubiriya, M. E. Blanter, A. A. Gol'denberg, and I. G. Getiya	180	28
Three-Strand Sinking V. B. Slavin	182	29
Roller Entry Guide Box for Rolling Channels-V. Ya. Kozlov and Yu. V. Ivanov	183	30
IN THE ROLLING DEPARTMENTS OF THE SOVIET UNION	105	
Laminar Jet Cooling of Strip in a Hot-Rolling Mill-R. V. Tanin and Yu. V. Shilkin	185	32
Roller-Hearth Continuous Furnace-S. E. Elagin, A. F. Kuznetsov, and V. A. Medvedev Lining of the Sectional Furnaces of the 30-102 Mill-V. S. Belov and V. I. Mikhailov	187 189	33 34
New Burner Nozzle Design—A. A. Nurmamedov, V. B. Likharev, and A. V. Shestopalov	191	35
Unified Range of Lubricating Materials Ya. R. Volkov, I. N. Nalivaiko, and V. I. Mitrofanov	193	36
REJOINDER		
Technical Training of Cadres-V. Agafanov	196	39
NEW BOOKS		
Network Planning and Control-The Plant Director's Tool-G. D. Agapov, E. P. Aref'ev,		
M. A. Brezinskii, and Yu. A. Danilenko	198	40

	Engl./F	Russ.
[There Is Protection against Weapons of Mass Destruction—L. Korzun		44]
SAFETY PRACTICE Safety Practices in the Repair and Maintenance of Materials Handling Cranes—N.A. Dzamashvili	201	44
NUMBER 4, APRIL, 1969		
Results and Problems A. N. Korneenkov	205	1
PIG IRON The Effectiveness of Plending Iron Ores M. A. Tseitlin, 7h. P. Tsuik F. I. Grigor'eu		
The Effectiveness of Blending Iron Ores—M. A. Tseitlin, Zh. B. Tsvik, E. I. Grigor'ev, V. H. Zaraiskii, and L. V. Malimon	208	3
The Capacity of a System For Feeding Natural Gas to a Blast Furnace—P. G. Rusakov	212	5
Replacing the Charging Apparatus of a 2700 m ³ Blast Furnace—A. S. Zalkind	215	8
Winter Transport of Raw Materials for Metallurgical Production P. G. Khalin	217	9
IN THE WORLD OF METALLURGY Estimation of the Net Cost of Sinter when Two Types of Sinter Are Produced—Yu. A. Stakhanov	219	10
Pairwise-Parallel Operation of Stand-By Stoves-Yu. V. Vinogradov	221	12
The Bakal Sintering Plant is 25 Years Old—A. Globin	222	13
STEEL Improving the Quality of Rimming Steel—A. I. Anokhina, B. A. Burdonov, A. M. Bronfenmakher, A. P. Ob'edkov, V. P. Ryzhkov, A. L. Shalaginov, and M. B. Shugol' Smelting Steel ShXh15 in 100-Ton Electric Furnaces with Treatment with Its Own Slag— E. F. Mazurov, A. F. Kablukovskii, S. M. Gnuchev, O. A. Labunovich, I. V. Smakotin,	224	14
G. E. Mysina, L. V. Borisova, and V. G. Yakovlev	227	16
G. A. Khasin, Yu. G. Gurevich, A. M. Danilov, E. V. Katsai, and D. I. Gololobov	231	19
Continuous Casting of Vacuum-Treated Alloy Steel-V. P. Perminov and V. E. Girskii	233	21
Improvement of Lining of Ladle Cars-V. I. Mesyats	235	22
ROLLED PRODUCTS		
Roll Pass Design of Economic High-Strength Steel Sections-A. N. Baram		
and Ya, Ya, Pugachev	238	26
and G. A. Karpov	240	28
Pipe Surface Improvement by Alkaline-Acid Pickling-S. A. Shaikevich	243	30
Roll Surfacing Section—N. I. Khmelkov IN THE ROLLING MILLS OF THE COUNTRY	245	32
Cutting Roll Grooves for Rolling of the No. 6 Die-Rolled Section - Yu. A. Papyrin	248	34
The First Soviet Rail-and-Structural Mill-N. K. Ryabokon' and G. D. Feigin	250	35
IN THE WORLD OF METALLURGY		
[Use of Metallized Iron Ore in Electric Melting. Iron Age, 201, No. 15, 26 (1968)		36]
[Car for Transporting Molten Pig Iron. New Scientist, 37, No. 588, 589 (1968)		36]
[Discontinuous Corrugation of Sheet. Iron and Steel, 40, No. 13, 514 (1967)		36]
[New Thermal Equipment Produced in the USA. Industrial Heating, 34, No. 12, 2416 (1967)	OFO	36
Ardor of Soul-A. Konovalenko	252	37
Use of Universal Assembled Appliances in Repair Works—A. P. Tomin	254 256	38 39
Scientific Organization of Labor-A Source of High Labor Productivity-V. Ya. Dombrovskii	259	41

Scientific Organization of Labor and the Problem of the Fluctuation of Manpower-I, Genken	318	41
IN THE WORLD OF METALLURGY		
[Method of Transporting Iron Ore. The Financial Times, No. 24594, 9 (1968)		43]
[New Type of Stainless Steel. The Heating and Ventilating Engineer, 42, No. 494, 135 (1968)		43]
Ductile Cast Iron	321	43
The Work of the Blooming Operatives at the Petrovskii Metallurgical Works-V. Sviridov	322	44
Cooperation is Strength—I. P. Chirkov	324	44
[Electroslag Remelting in USA. Iron Age, 201, No. 26, 63 (1968)		45]
[Three-Stand Double Cold Reduction Mill. Steel Times, 198, No. 2, 99 (1968)		45]
NUMBER 6, JUNE, 1969		
Automation! What Is Its Present and What Is Its Future in Ferrous Metallurgy?	329	1
CAST IRON Algorithm for Automatic Testing and Control of the Thermal State of a Blast Fumace		
-A. N. Pokhvisnev, V. M. Klempert, and I. F. Kurunov	337	6
Automatic System for Controlling the Distribution of Natural Gas over Tuyeres-V. M. Yankelevich,		
F. P. Izyumskii, V. A. Gudyrya, L. D. Prikhod'ko, and V. D. Leshchinskii	399	8
Automatic System for Distributing Blast and Natural Gas over Tuyeres-N. P. Sokur	341	10
Mechanization of Replacement of Conveyor Belts of Agglomeration Plants-L. M. Arist,		
A. N. Gorodetskii, E. A. Yarovinskii, O. A. Simonov, and A. M. Robustov	343	11
IN THE BLAST-FURNACE SHOPS OF THE COUNTRY		
Improved Electrical Drive of the Sintering Machine-A. V. Drimbo, P. A. Polovoi, L. G. Bensman,		
and A. D. Ishchenko	345	13
Analyzer for Blast Furnace Gas-V. A. Pavlenko, M. D. Shutov, V. A. Sankin, and A. O. Sall' Science and Engineering Conference on the Fundamentals of Automatic Blast Furnace Process	347	14
Control—I. A. Rylov	348	15
Algorithm for Preparation of Charges for Tilting Open-Hearth Furnaces-E. N. Hadji	351	17
-V. A. Kozlov and B. Ya. Malyshkin	354	19
Yu. G. Dubina, and V. I. Golubitskii	357	22
The Donets Metallurgical Plant	360	24
Mechanization of the Removal of Solidified Slag-O, L. Ivanov and A. P. Pirch	362	26
ROLLED PRODUCT		
Measurement of Strip Tension on Continuous Sheet Mills—A. G. Ponomarenko, V. P. Tananakin,	000	077
and V. V. Shvetsov	363 365	27 29
Automatic Monitoring of Metal Temperature in a Continuous Furnace—A. G. Monid,	300	49
A. S. Kozhevnikov, V. F. Rovenskikh, Yu. I. Bulatov, E. A. Nechaev, and G. A. Kadyshev	368	31
A Vertical Transfer—L. M. Rodionov	370	33
Mechanization of the Flaw Detection of Tube Billets-N. N. Zhuravlev, B. V. Rogoznyi,	010	00
and A. K. Senin	373	35
IN THE ROLLING MILLS OF THE COUNTRY Mechanization of the Removal of Flux from the Hard-Surfacing Machines-V. K. Borodaevskii		
and V. D. Morozov	27E	90
Modernization of the Dog-Transfer Drive-V. G. Attaryan	375 377	36 37
Unit for Cleaning Sheet Metal-M, S, Anishchenko.	378	37
Automatic In-Process Sorting of Off-Specification Pipe-V. P. Sverdlov	380	39
O -I		

Mechanization of Road-Clearing Operations on Plant Railway Tracks-O. L. Ivanov		
and I. F. Pavlenko Novel Signalling and Control Element for Pneumatic Mail Systems-V. F. Antonenko	382	40
and V. K. Borovikov	384	41
An Eternal Search—S. G. Sokolov	386	42
Switching Panel for a Duty Electrician-V. I. Sel'kov	388	43
SAFETY AT WORK An Instrument for Continuous Measurement of Dust Concentration—V. Oparysheva	390	44
[Automatic Heat-Treatment Control (Design Engineering, Canada, 14, No. 9, p. 103, 1968)	000	46]
[Automatic Control on a Plate Mill (Iron and Steel Engineer, USA, 45, No. 5, p. 111, 1968)		46]
[New Plate Rolling Plant in the USA (Iron Age, USA, 202, No. 4, p. 13, 1968)		46]
[New Wide-Flange Beam Mill in Japan (Iron and Steel, USA, 41, No. 8, p. 329, 1968; Metal		20]
Bullentin, England, No. 5321, p. 13 1968)		46]
NUMBER 7, JULY, 1969		
Vigorous Stride of the Five-Year Plan	395	1
PIG IRON		
Melting Pig Iron with the Use of Silicon Coke-V. A. Shatlov and V. P. Gorbachev	398	.3
Manufacture of Charging Equipment for 2700 m³ Capacity Blast Furnaces - O. P. Gaponov		
and I. N. Sheenko	401	5
Improved Performance of Self-Balancing 168-GR Screens and DZMO Shakers		
- V. M. Zinin and N. I. Noskov	403	7
Dynamic Balancing of Exhauster Rotors-V. E. Savitskii	406	9
Automatic Plant for Maintaining a Constant Level of Solutions in Tanks for Sprayers		
of Casting Machines-V. F. Bannykh	409	12
IN THE WORLD OR METALLURGY		
[Blast Furnace Tap Hole Drilling Machine (The Iron Age, Vol. 200, No. 18, 475 (1967)		13]
[Capacity of a Metallurgical Plant and Its Profitability [J. Iron and Steel Institute, Vol. 206,		
No. 5, 442 (1968)		13]
Fighting Dust Accumulation in the Charging Equipment and Galleries of Sintering Plants		
-B. G. Novikov, V. G. Aleinikov, A. L. Ermakov, and V. N. Bashkatov	410	13
Senior Foreman-I. P. Chirkov	411	14
STEEL		
World Record of Zhdanov Steelmakers - V. O. Kulikov, A. E. Prikhozhenko,		
E. G. Gryzlov, and V. I. Yakimenko	413	15
Quality of Rolled Sections after Deoxidizing and Alloying of Steel in the Ladle	110	10
-A. A. Kurdyukov, V. T. Tereshchenko, Vyoig Min'Tyong, A. M. Kondratyuk,		
A. M. Ofengenden, and V. I. Yavoiskii	416	17
Increasing the Life of Door Linings of Open-Hearth Furnaces-B. L. Ilyukhin		
and K. M. Golubyatnikova	420	20
Pressure Casting of Steel Slabs - A. G. Kotin, V. G. Litvinenko, V. M. Yankelevich,		
A. N. Karasevich, A. E. Sapozhnikov, V. N. Krupenik, and V. A. Gudyrya	423	23
Steel Melter of Magnitka Holder of the Order of Lenin-A. Khinkis	427	26
Story of One Search-G. P. Davydenko	429	28
IN THE WORLD OF METALLURGY		
Direct Reduction of Iron Ore	430	28
	-00	20
ROLLING	22.2	
Rolling the No. 22 I-Beam-G. D. Feigin, I. M. German, and E. V. Kozopasov	431	29
Operation of the 260 Wire Mill after Reconstruction-V. Z. Budovskii	434	31

Protection of Pipe against Corrosion during Transportation and Storage-B. S. Malkin, V. T. Biryukov, G. K. Strizhak, M. V. Golosnaya, L. M. Kishkin, P. A. Esaulov, T. P. Grigor'eva, and V. N. Kochanov	438	34
IN OUR ROLLING MILLS Production of Profile Tubes—M. S. Rybakov	441 443	3 8
CAPPEN AT MODY		
SAFETY AT WORK Training Foremen in a Uniform Safety System - T. N. Khoroshev	445	39
NEW FROM ABROAD		
[Iron Powder from Liquid Cast Iron (Metal Progress, Vol. 93, No. 2, p. 9, 1968)	448	41 42
"Silver" from Clay-S. Venetski	451	44
-M. Shumskii and M. Reznikov	454	46
NUMBER 8, AUGUST, 1969		
25th Anniversary of the Research Institute of Ferrous Metallurgy-N. I. Sheftel'	459	1
THE FIGHTERS OF LENIN'S GUARD		
"Let Dzerzhinskii Do It"—B. Shur	462	3
CAST IRON		
Increasing the Efficiency of Sinter Strand Charging-V. I. Bykov, Yu. S. Rud', and V. G. Kucher	466	5
Converter Sludge for Use in Sinter Production-E. Z. Freidenzon, I. P. Khudorozhkov,		
M. P. Antoshechkin, M. Ya. Groshev, and I. A. Ozhiganov	468	6
Performance of a Blast Furnace with Two Iron Notches Emptying into a Single Cast House - B. F. Yashchenko	471	8
Ladle Treatment of Titanium-Containing Pig Iron-N. F. Lomaka, A. I. Bychin,	- 1-	
and I. A. Esin	474	11
Improved Construction of Blast-Furnace Stoves-A. V. Rostemberskii, A. V. Sorokin,		
and P. V. Sorokin	476	12
ON THE BLAST FURNACE PLANTS OF THIS COUNTRY		
Operation of Blast Furnace Hoists-V. I. Il'kun, A. P. Kravchenko, and Yu. Z. Ratner	478	13
Family Relic - V. I. Alibekov	479	14
STEEL		
Use of Manganese Ore in Oxygen Converters—S. G. Afanas'ev and P. I. Yugov	481	15
-M. A. Magidson, A. I. Shatukhov, G. A. Sedach, M. K. Musikhina, L. G. Avilov,	4.05	10
A. I. Zavodílenko, and A. G. Panchenko	485	18
Use of Calcium Silicon for Deoxidizing Transformer Steel-Z. V. Klochkova, S. M. Gnuchev, A. G. Zubarev, V. A. Alyavdin, A. D. Kapustin, A. F. Kablukovskii, B. G. Sobolev,		
N. F. Markov, T. E. Pravdina, and A. M. Mamot	489	21
Development of the Technique of Producing Three-Layer Steel 60-2kp-60	493	25
-A. I. Chichkanov, M. I. Loganov, and V. I. Shevchenko	496	27
ROLLED IRON The Nature of Wear of Tube Rolling Mill Rolls-V. P. Goncharov and N. M. Vedyakin ••••	498	29

	Engl./	Russ.
Operation of Plate Mill Lubrication Systems - A. T. Shevtsov and V. I. Rospasienko	501	32
Production of High-Temperature Wire-Ya. S. Shvartsbart	505	35
Installation for the Rehardening of Rolls-K. S. Tarasov and A. A. Ganich Strengthening the Shafts of the Centerer Lever Housing-I. A. Utin, M. I. Mukhtarov,	507	37
and A. I. Abdullaev	508	37
B. M. Zlobinskii, E. S. Pimenov, and Yu. I. Khesin	509	38
E. S. Sapiro, and A. N. Moskalev	511	39
F. M. Leiner, V. P. Mishchenko, and O. A. Mamontov	512	39
Steel Quality-Reviewed by V. S. Slavkin	513	40
Technical Data Retrieval Service-Tasks and Problems-S. Andreev	516	42
Japanese 15-ton Low-Frequency Coreless Induction Furnace	519	43
[INTERNATIONAL LIAISONS] [XVII Session of the Administrative Committee of the International Association		
of Metalworkers Trade Unions - Yu. Khitsenko		441
Determination of Downtime at the 275 Rolling Mill-V. N. Boitsoy	520	46
NUMBER 9, SEPTEMBER, 1969		
Unceasing Attention to New Projects -A. A. Dimitrevskii	523	1
CAST IRON		
Neutralization of Iron Ore Stocks-L. M. Rudakov, A. K. Klochko, and E. A. Sukhonosenko Effect of the Sintering Technology on the Efficiency of Sintering Machines and the Quality	526	3
of Sinter-B. I. Bykov, Yu. S. Rud', A. Z. Krizhevskii, V. G. Kucher, and V. I. Loboda Operation of Automatic Strain-Gage Weighing Equipment in Blast-Furnace Charging Systems	530	6
-K. S. Zolomkhin and R. A. Fokichev	532	7
V. F. Kabanov, S. T. Pliskanovskii, A. G. Popov, and A. A. Shokul	537	10
IN THE BLAST-FURNACE PLANTS OF THE SOVIET UNION Mechanization of Refractory Supply during Repair of Molten Cast Iron Transfer Ladles		
-V. F. Bannykh Removal of Sulfur Dioxide from Sinter Gas -R. S. Suprunenko, N. M. Vasil'chenko,	541	13
V. N. Bytkin, I. D. Shablienko, S. G. Vygran, I. S. Bichev, and L. A. Volkova STEEL	542	13
Increased Output Capacity of 600-Ton Open-Hearth Furnaces -Yu. F. Voronov, G. S. Kolganov,		
F. I. Bashlii, and V. F. Isaenko Continuous Casting of Alloy Steel in Square Cross-Section Crystallizers—V. P. Perminov,	543	14
V. E. Girskii, V. I. Podkin, V. A. Tetyuev, A. I. Chizhikov, and F. D. Zebzeev New Trends in the Development of Steel Refining Techniques Using Liquid Synthetic Slags	546	16
-A. I. Osipov, S. G. Voinov, and A. G. Shalimov	549	19
Carburization of Flame Cone with Fuel-Oil in Oxygen Lancing of Open-Hearth Bath -B. S. Kurapin, G. A. Podol'skaya, V. A. Dvoryaninov, T. K. Maksimishina,	553	22
V. L. Andreev, V. G. Sergienko, D. M. Parkhomenko, V. V. Mosiashvili,		
Yu. G. Strel'chenko, N. I. Globa, and N. A. Shakov	555	24

	Engl./	Russ
ROLLED PRODUCTS Cold Rolling of Steel Shaped Sections—Kh. B. Grosman and A. G. Devyaterikov Minimizing the Amount of Metal Used in the Fabrication of Bimetal Sandwiches	558	26
-M. A. Siagalov and V. I. Rospasienko	562	29
and P. A. Firsov	565	31
[THE WORLD OF METALLURGY] [Continuous Casting of Shaped Beam Blanks (from Steel Times [Britain], 196, No. 10, p. 619		
(1968)). [Wear-Resistant Steel (from The Financial Times [Britain], No. 24705, p. 8 (November 25,		32]
Roll-Pass Design for Plowshare Strip 122 - A. M. Korchemnyi	567	32]
Efficiency of Cast Iron Rollers of Different Compositions - Yu. E. Kulak, V. T. Zhadan I. V. Gunin, V. E. Karsskii, V. K. Parfenyuk, P. P. Doroshenko, V. Ya. Pavlovskii,	301	00
B. F. Mel'nikov, and I. Z. Tsilevich	568	35
Yu. A. Mukhin, V. G. Biryukov, B. S. Malkin, and S. P. Yudin	570	36
IN THE ROLLING DEPARTMENTS OF THE SOVIET UNION	572	38
Stacking of Pipes into Pockets – Z. G. Fuks	573	38
-P. F. Taratenko	576	40
TWENTIETH ANNIVERSARY OF THE FOUNDING OF THE GERMAN DEMOCRATIC REPUBLIC Ferrous Metallurgy in the German Deomocratic Republic—M. A. Kovalevskii,		
A. I. Kalashnikov, I. I. Pashko, I. I. Osadchii, and L. Z. Strokova	579	42
of the Mining College – A. A. Kuzin	582 584	44
A Fighter against Fatigue – S. Venetskii	587	47
IN THE WORLD OF METALLURGY		
[Steel Production Capacities in the USA (Wall Street Journal, February 13, 1969))		49]
NUMBER 10, OCTOBER, 1969		
Economical Use of Metal - N. I. Sheftel'	594	1
At the Cradle of the Five-Year Plans-B. Shur	598	3
CAST IRON Blowing in of a 2700 m ³ Blast Furnace - A. A. Zaloga, I. P. Vasko. V. I. Bondarenko,		
B. F. Marder, and V. V. Taranovskii	601	5
Mechanization of Hearth Operations and Preparation of Refractory Compounds, Construction of Cooling Apparatus and Systems, and Their Maintenance.—P. U. Yur'ev, L. Ya. Levin	605	8
Yu. S. Pavlyukov, and V. F. Kosinskii The Control of Localized Burning of the Tuyeres—N. M. Kharchenko, P. I. Shestak, I. L. Kolesnik, B. T. Petrovskii and I. I. Tselikovskii.	613	13
FOR INDUSTRIAL SAFETY		
Working Conditions and Industrial Esthetics at the Sintering Plant of the Southern Mining		
and Concentration Combine - V. A. Martynenko, and P. M. Baltaksa	615	15

An Analysis of the Operation of Equipment for the Production of Crushed Stone from Lumps		
of Slag-N. N. Kochetov, E. I. Filippova, M. V. Rutus and D. M. Zakharova	617	16
STEEL		
Recarburization of the Liquid Metal in an Open-Hearth Furnace by Powdered		
Carbon-Containing Materials - V. F. Sitnikov, A. S. Mikhailov, V. N. Domoradskii,	000	10
and É. V. Verkhovtsev	620	18
Deoxidation of Low-Carbon High-Grade Steel for Complex and Extra-Complex Pressings -D. A. Smolyarenko, Yu. N. Semenov, V. T. Sosipatrov, V. A. Ponomarenko,		
A. A. Alymov, and A. G. Tat'yanshchikov	623	20
The Lenin Dnepropetrovsk Tube Mill-Photos and text by R. Suvarov	627	24
Information on Pig-Iron Composition and Temperature in Converter Process Automation -S. K. Sobolev, V. S. Bogushevskii, N. A. Sorokin, I. S. Kukuruznyak, V. M. Servetnik,		
P. I. Mel'nikov	630	26
Teeming Steel at a Low Degree of Superheat-N. A. Polushkin, M. I. Loganov,		
and A. I. Chichkanov	633	28
An Improved Stuffing Box-I. T. Sokolov	635	29
IN THE STEELMAKING SHOPS OF THE COUNTRY		
Device for Sampling Metal and Slag-V. Ya. Lashchev, V. A. Rybinov, and P. G. Terziyan	636	30
Improvement of the Charging System of Lime Furnaces -O. L. Ivanov and A. D. Mikhailov	638	31
ROLLED PRODUCT		
Rolling of Reinforcing Bars of a New Deformed Section-L. V. Shcherbakov, S. M. Skorobogatov,		
A. D. Filatov, A. M. Litvak, E. P. Shemyavich, and B. Ya. Ronin	640	32
Use of Corundum Blocks for Bricking the Hearths of Continuous Furnaces -A. G. Monid,		
A. S. Kozhevnikov, O. A. Mel'nikov, and É. V. Vorob'ev	642	33
IN THE COUNTRY'S ROLLING MILLS		
Automation of the Machine for Thread Cutting in Drill and Casing Pipe Sockets		
-N. N. Zhuravlev and I. T. Napadailo	645	36
Sealing of the Thread Connections of Casings -V. V. Ermakov	647	37
Improved Overhead Unit for Finishing of the Outside Surface of Tubes -N. A. Dzamashvili,	649	38
B. Sh. Kvanchakhadze, and R. A. Maglakelidze	651	39
The Hardening of Circular Saw Teeth-V. P. Ovsyannikov	653	40
Organization of the Working Areas for Blooming Mill Operators -B. P. Bel'gol'skii,		
É. S. Glikman, T. N. Polyanskaya, and N. I. Kul'baba	655	41
Innovators in the Magnitogorsk Metallurgical Group of Enterprises -A. N. Khinkis Adoption of Staggered and Unit Repair Methods for Equipment Maintenance -I. G. Vendrov	658	43
and L. B. Boguslavskii	660	44
NUMBER 11, NOVEMBER, 1969		
NOWIDER 11, NOVEMBER, 1303		
Cherepovets Metallurgical Works	665	1a
Befitting Celebration of Lenin's Jubilee – I. I. Kostyukov	666	1
CAST IRON		
Temperature of Critical Strength of SSGOK (The SOKOLOVO-Sarbaisk Ore Concentration Group of Enterprises) Pellets in Blast-Furnace Smelting - A. M. Chernyshev,		
T. Ya. Malysheva, G. P. Moreeva, and F. M. Zhuravlev	669	3
Blast Furnace Operated on High-Basicity Sinter-G. G. Pashkeev, Yu. A. Lekontsev, and		
S. N. Shkumatov	672	6
The Problem of Improving Pig Iron - D. V. Gulyga, B. N. Starshinov, Ya.S. Gorbanev, V. I. Volivakhin, N. N. Temnokhud, and V. D. Sinitskii	675	8
	010	U

	Engl./F	Russ.
Prolonged Life of the Lining in Blast Furnace Tops - V. M. Gratsilev, L. Ya. Levin, and V. I. Stekachev.	678	10
STEEL		
Developments in Continuous Steel Casting Processes – G. V. Gurskii	681	13
A. S. Friedenberg	684	14
R. Z. Élimelakh, A. I. Ignatovich, M. V. Faivush Inhomogeneity of Lengthened Slabbing Ingots Cast from Chemically Stopped Rimmed Steel	687	17
- V.V. Shepelev, V.N. Sapko, V.A. Efimov, I.D. Kuzema, and T.M. Kats	691	19
Prolonged Life of Checkerwork in Open-Hearth Furnaces - I. G. Misyura, I. S. Timoshpolskii, I. M. Zelenin, and V. N. Peredistyi	694	22
Network for Planning and Controlling Repairs of Metallurgical Equipment - N.I. Kuznetsov	696	23
IN OUR STEEL SMELTING PLANTS		
Smelting Steel in Vacuum Induction Furnaces Using a Liquid Charge - Yu. V. Tarakanov, N. P. Pozdeev, N. A. Tulin, and B. V. Linchevskii	700	25
ROLLED PRODUCT Mastering of the Semicontinuous 600 Mill - V. Z. Arshavskii, N. F. Gritsuk, I. K. Dorozhko, Yu. M. Yukhnovskii, A. S. Antonenko, I. V. Gunin, A. E. Katsalapenko, V. P. Sudya,		
Z. T. Sokhadze, and V. T. Svetlanov	701	26
Ya, E. Ioffe, E. M. Shvetsov, and A. M. Serova	707	31
D. M. Rabinovich, P. Ya. Makarov, and N. M. Pal'mov	711	34
K. Kh. Mamedov, I. P. Aliev, K. R. Guseinov, B. I. Podzharskii, and K.A. Guseinov	713	35
V. S. Malakhov, V. N. Svyatchenko, S. G. Chuchko, and Yu. P. Dolgoker	716	37
Hydraulic Press for Disassembly and Assembly of Roll Bearings - P. F. Datsenko Device for Setting Sliding-Carriage Saws in the Proper Position - V. V. Tatarnikov	718	38
V. N. Gusakov, and V. N. Mikhalev	720	39
Reducing Air Pollution: Experiences from the Work of Il'ich Factory - N. G. Braginets OUALITY AND RELIABILITY	722	40
Ways of Improving the Quality of Metals - V. N. Varlakov and E. A. Linker	724	41
A Valuable Manual - V. I, Dovgopol and S. M. Yaroshevskii,	726	42
Living for Work, Living for People - I. Tchirkov	728	42
TIN From the Oldest Families – S. Venetskii	730	43
NUMBER 12, DECEMBER, 1969		
Fifth Plenary Session of the Central Committee of the Trade Union for Workers		
in the Metallurgical Industry.	735	1
PIG IRON		
Use of Radioactive Isotopes for Tests of Degree of Mixing of Sinter Charge - V. A. Machkovskii, V. I. Garmashov, A. G. Uzhba, and E. V. Puzovskii	742	6

Blast Furnace Melting with 40% SSGOK Pellets - B. L. Lazarev, A. A. Buzhinskii,		
B. M. German, A. V. Kozlov, and B. D. Yantsen	745	8
V I. Ryn'kov, and E I. Andreev.	750	11
LABOR SAFETY		
Demisting of Conveyer Galleries in Sintering Plants – D. I. Malyuta, N. M. Serbin, R. N. Shumilov, I. I. Afanas'ev, and V. V. Kachanov	752	13
STEEL		
Characteristics of Melting Steel in a Two-Bath Furnace - I. M. Konovalov, K. M. Trubetskov, A. A. Alymov, K. D. Makrushin, A. G. Tat'yanshchikov, N. A. Kudryavaya, A. A. Noskov,		
I. N. Perov, V. M. Tarasov, V. I. Yakushin, L. S. Shteinberg, and V. A. Andreev Development and Application of Technology of High-Speed Pouring of Steel	754	14
- G. S. Kolganov	757	16
Refining of Open-Hearth Steel with Slag made from Waste from an Alumina Plant – A. I. Tsibul'nikov, E. D. Mokhir, A. M. Danilov, N. F. Bakhtiarov,		
and A. B. Pokrovskii	759	12
IN THE STEELMAKING SHIPS OF THE COUNTRY		
Strength of Ingot Molds Cast in Molds of Liquid Self-Hardening Compounds		
- L. A. Bol'shakov, G. S. Shelestov, and V. N. Popugin	762	20
and A. I. Chernogubov	764	21
IN THE NAME OF IL'ICH Giant at the High Mountain	768	24
OUR BEACONS		
The Fifteenth Variety - S. Sokolov	771	26
ROLLED PRODUCT		
Improved Roll Pass Design for Pilger Mills — O. A. Plyatskovskii, V. I. Devyatisil'nyi, Yu. I. Vashchenko, A. A. Il'nitskii, B. S. Malkin, V. T. Biryukov, and A. V. Saf'yanov	772	27
Improved Rolls in Universal Mill Stands – N. S. Noskov, G. D. Feigin, and V. M. Shalagin Commercial Lubricants for Cold Rolling of Transformer Steel – N. I. Oseiko, I. A. Chamin,	775	29
A. F. Pimenov, A. A. Petrovskii, O. I. Frolova, A. M. Senatorov, and F. I. Zenchenko Billet Scarfing by Means of an Improved Flame Cutting Machine – E. Kh. Shamovskii	778	31
and A. D. Zykov	780	33
Gear-Type Mill Spindels - A. N. Bibikov, A. A. Kovtushenko, A. I. Rober,		
and P. T. Teitel'baum	783	35
IN THE ROLLING MILLS OF THE COUNTRY		
High-Precision Wall Thickness Reduction of Electrically Welded Pipes - I. T. Totskii, N. A. Bogatov, V. V. Eriklintsev, and D. S. Fridman	787	37
Machine for Planing Slag Dumps - A. M. Tikhomirov and G. M. Tkachenko	789	38
Transparent Screens for Cabins of Control Stations and Cranes - O. V. Vorobeva, G. A. Kachnova, A. F. Babalov, V. P. Gnutov, T. L. Magradze, and V. P. Chkhartishvili	791	39
	101	00
NEW BOOKS Metal and Its Makers — A. Parkhomenko	794	41
	.01	
INDEX	800	
Author Index, Numbers 1-12, 1969	799	



